

**This Page Is Inserted by IFW Operations
and is not a part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- **BLACK BORDERS**
- **TEXT CUT OFF AT TOP, BOTTOM OR SIDES**
- **FADED TEXT**
- **ILLEGIBLE TEXT**
- **SKEWED/SLANTED IMAGES**
- **COLORED PHOTOS**
- **BLACK OR VERY BLACK AND WHITE DARK PHOTOS**
- **GRAY SCALE DOCUMENTS**

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



Consumer and
Corporate Affairs Canada

Consommation
et Corporations Canada

(11) (A) No. **1 186 470**

(45) ISSUED 850507

(52) CLASS 20-54
C.R. CL. 61-4.5

(51) INT. CL. ⁴E02D 31/02,31/10

(19) (CA) **CANADIAN PATENT** (12)

(54) Protective Sheet, in Particular for a Foundation Wall
or a Floor on the Ground

(72) Bergsland, Jon,
Norway

RECEIVED
APR 12 2002
GROUP 3600

(21) APPLICATION No. 398,743

(22) FILED 820318

No. OF CLAIMS 2

Canada

1186470

The present invention relates to a protective sheet, in particular for a foundation wall or a floor on the ground, comprising a substantially planar sheet or suitable, relatively stiff material, e.g. plastics, where one side of the sheet has a large number of spaced protrusions constituted by knobs made by forming, whereby the other side of the sheet thereby obtains a corresponding number of recesses provided by said forming. Such a sheet is known, for example, from DE-A-2640665 and DE-A-3006820. GB 1553314

10 The known so-called foundation wall sheets are presently used extensively as a covering of the foundation wall before fill masses are placed thereat. Where access to draining fill masses is poor, it is frequently an expressed wish to ensure that the water pressure against the foundation wall becomes the least possible. Such additional drainage is not always that easy to provide by means of the known foundation wall sheets having knobs. Further, it may in certain cases be desirable to provide the foundation wall sheet with knobs which do not quite so easily yield due to external forces

20 from e.g. the fill mass. Recently it has also been common to use these foundation wall sheets as a diffusion bar for a floor on the ground. With the prior art solutions, it is, however necessary to provide spacing means to space the floor from the moisture bar, in order to provide sufficient ventilation or drainage under the floor. This is particularly important in the cases where a floor made e.g. from chip boards is used.

30 Thus, the present invention has as an object to provide a protective sheet providing a solution to the indicated drawbacks. The present invention provides a protective sheet, in particular for a foundation wall or a floor on the ground, comprising a substantially planar sheet of suitable, relatively stiff plastic material, one side of the sheet having a large number of spaced protrusions constituted by knobs provided by forming, the other side of the sheet thereby obtaining a

1186470

corresponding number of recesses provided by the forming, characterized in that the knobs have a reversely directed centrally disposed crater-like portion of truncated conical form, the widest end of which is integral with the upper portion of the knob and the narrowest end of which is substantially flush with the other side of the sheet.

In a preferred embodiment open channels are provided for drainage of filtrated water. A corresponding rib is formed on one side of the sheet with a height less than the height of the knobs, characterized in that each of the open channels extends between and has respective ends opening into the recesses of adjacent knobs.

Further features of the invention will appear from the subsequent description with reference to the attached drawings.

Fig.1 is a section of a protective sheet according to the invention.

Fig.2 is the cross-section II-II in Fig.1.

Fig.3 is the cross-section of Fig.2 related to a filtrating canvas.

Fig.4 illustrates the use of the protective sheet in a manner known per se.

Fig.5 illustrates the use of the protective sheet in connection with a filtrating canvas.

Fig.6 illustrates the use of the protective sheet as a moist bar for a floor on the ground.

In Fig.1 there is shown a protective sheet, e.g. of relatively stiff plastics which may possibly before use be present in a rolled-up form. As indicated in Fig.2, knobs 2 protrude from the one side 1A of the sheet, said knobs having a centrally arranged crater-like portion 3 and where the bottom of the crater 3A is flush with the other side 1B of the sheet. Between the recesses 2A provided by the forming of the knobs 2, there is on the other side 1B of the sheet provided an open channel 4. On said one side 1A of the sheet there is thus a

1186470

corresponding rib or ridge. The said channels 4 will, as regards a vertically disposed protective sheet, extend between adjacent recesses 2A being arranged vertically above each other.

10

20

30

1186470

However, there is nothing against the knobs being arranged in a different manner than that illustrated in Fig. 1. Thus, the knobs of one row of knobs could be shifted relative to the knobs in the adjacent rows of knobs.

- 5 In the cases where the protective sheet is to be arranged in an environment having masses providing poor drainage, it may be an advantage to arrange a filtrating canvas 5 on the said other side 1B of the sheet.

- 10 In Fig. 4 there is shown a first mode of use for the protective sheet 1, where it is arranged in a traditional manner with the knobs facing a foundation wall 7. Fill mass 6, e.g. broken stone or other mass having good drainage property is placed against the other side of the sheet. This draining mass may cause a substantial pressure against
15 the sheet, wherefore the crater-like portion of the knob will effect a stiffening of the knob itself and ensure the necessary distance between the protective sheet and the foundation wall. The channel 4 will in addition effect further drainage along the other side 1B of the sheet,
20 wherefore the water pressure against the sheet is reduced.

- In Fig. 5, the mass 8 is in the form of mass having poor drainage capability, e.g. clay or fill mass containing earth. In this case it is desirable to arrange the filtration canvas externally of the other side of the sheet,
25 whereby water being filtrated through the canvas escapes via the channels 4.

- The filtrating canvas 5 prevents the channels 4 from being blocked by the mass 8. In this connection the crater-like portion 3 of the knob 2 will effect further
30 support of the canvas 5 and prevent it from being pressed into the recess 2A.

- In Fig. 6 there is shown a protective sheet 1 intended as moist bar for a floor 9, e.g. a floor made from plates of wood chippings. Sheet 1 is arranged on a
35 cast layer 10 on the ground (not shown). The channels 4

-4-

1186470

will in this case contribute to a certain ventilation
between the floor plate 9 and the protective sheet 1.
Further, the crater-like portion 3 of the knob 2 upon
heavy point loads on the floor 9 contribute to the knob
5 better withstanding such deforming forces.

10

15

20

25

30

35

**1
1
8
6
4
7
0**

1186470

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A protective sheet, in particular for a foundation wall or a floor on the ground, comprising a substantially planar sheet of suitable, relatively stiff plastic material, one side of the sheet having a large number of spaced protrusions constituted by knobs provided by forming, the other side of the sheet thereby obtaining a corresponding number of recesses provided by said forming, characterized in that the knobs have a reversely directed centrally disposed crater-like portion of truncated conical form, the widest end of which is integral with the upper portion of the knob and the narrowest end of which is substantially flush with the other side of the sheet.

2. A protective sheet as claimed in claim 1 including open channels, there is provided through forming in such a manner that on the one side of the sheet there appears a corresponding rib with a height less than the height of the knobs, characterized in that each of the open channels extends between and has respective ends opening into the recesses of adjacent knobs.

FETHERSTONHAUGH & CO.
P.O. Box 248
Montreal AMF
Dorval, Quebec, Canada
H4Y 1A8

Patent Agents for Applicant

1156470

2-1

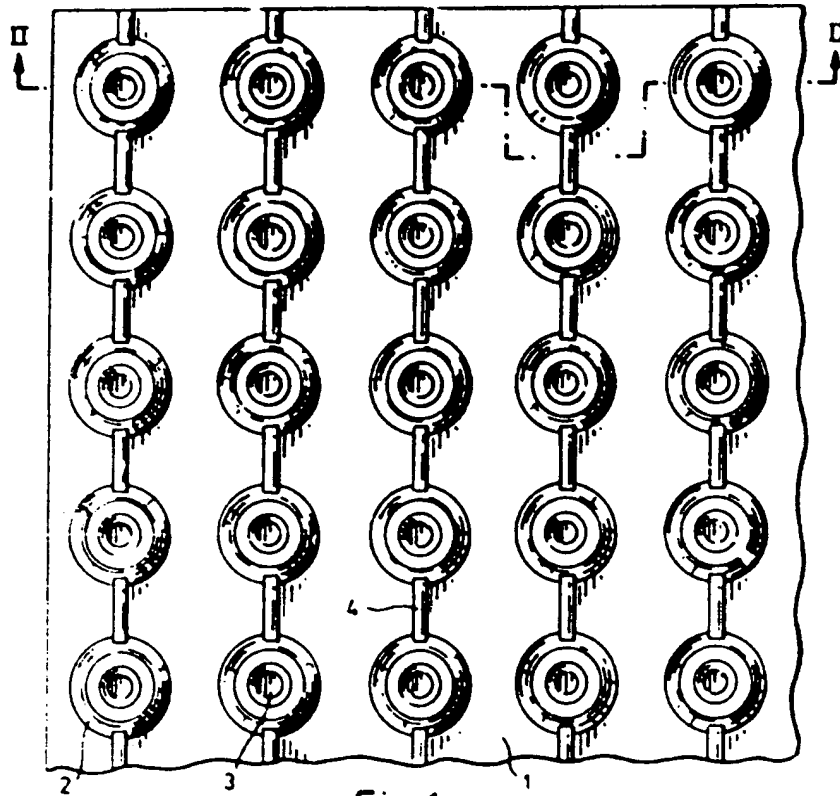


Fig. 1.

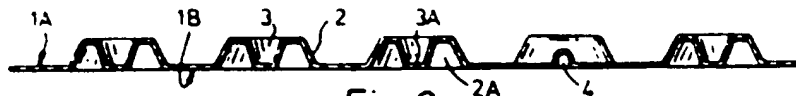


Fig. 2.



Fig. 3.

Featherston Lang & Co.
PATENT AGENTS

1186470

2-2

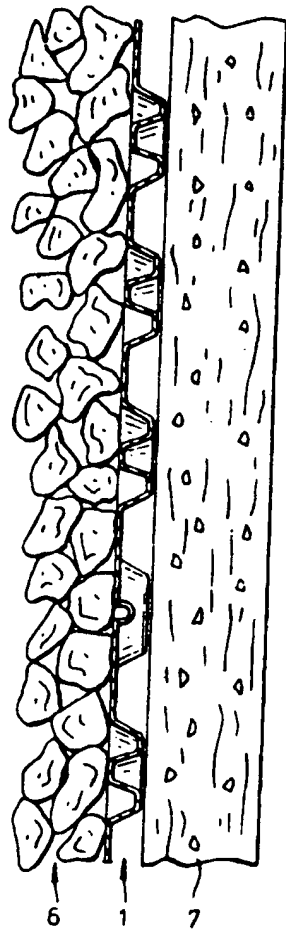


Fig. 4.

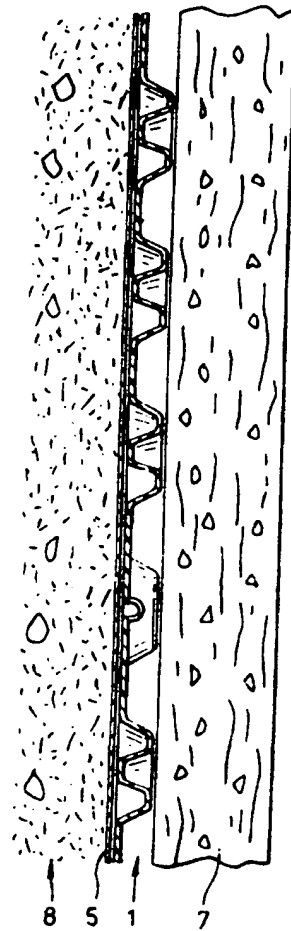


Fig. 5.

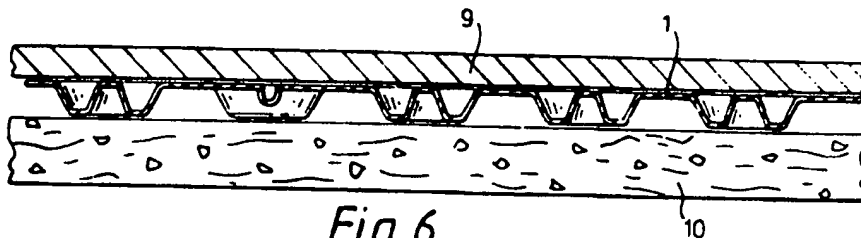


Fig. 6.

Featherstonhaugh & Co.
PATENT AGENTS